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**DRIFNETS BUY BACK PROGRAM: A CASE OF INSTITUTIONAL  
FAILURE**

**Preliminary draft**

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Fishing for swordfish goes back thousand of years and is part of the fishermen culture and tradition in the South of Italy. The use of drifnets brought to the development of an artisanal and small scale fishery, while allowing for an increase of fishermen incomes. Following an international dispute, the whole fishing segment was bound to be eliminated in the Mediterranean Countries of the European Union. Italy drewed a “Spadare Plan” to support those involved with this fishery, allowing for definitive vessel withdrawal and anticipated fishermen retirement from one hand and reconversion premiums for those who intended to continue their activity, but using different gears from another hand. The multilevel decision making process originated by a ONU Resolution intended to be equally applicable all over the wordl, the heavy political pressure behind the regulations, were such that no social, biological or economic evaluation were used for drawing a successful buyback scheme. The rules were not shared by fishermen and, partially, by member states. Result shows that the same stock is fished in the same areas, by the same gear (driftnet), by fishermen registered in bordering countries, while exporting their landings to Italy. Of course, the buy back scheme did not prove to be successful, not only because of possible technical drawbacks, but mainly because of an institutional failure. As matter of fact, the scheme introduced heavy distorsions and discriminations among fishermen, proved to be cost inefficient, while the resource conitnues to be fully fished and of course, havingan identical impact on resources intended to be protected.

## Description of the segment

Driftnet gears are extensively used in a number of Mediterranean countries. However, until 2001, their largest number and capacity was recorded in Italy. Before issuing the moratorium on driftnets, the fleet was mostly concentrated in some ports of southern Italy, particularly in the administrative regions of Sicily and Calabria. Within these

*Map. 1 – Geographical distribution of driftnets in Italy, 1998*



regions, 70% of the capacity was registered in the areas of Palermo, Milazzo, Catania and Reggio Calabria.

The segment was extremely heterogeneous, given that it was characterized by vessels whose technical and dimensional features were highly differentiated. Generally speaking, a group of vessels, whose average dimension was rather low (not

exceeding 10 tsl), was set against another consisting of vessels of approximately 35 tsl and that moved further offshore for their fishing activities (tab.2).

The overall fishing capacity remained substantially stable until 1997. In the same period, the driftnets fleet, consisting of approximately 650 units, employed over 3,000 fishermen. Since 1997, with the start of the licence withdrawal plan, the fleet began to decrease. The major reshaping was recorded between 1998 and 1999, when the driftnets fell from 594 to 229 units (figure 1).

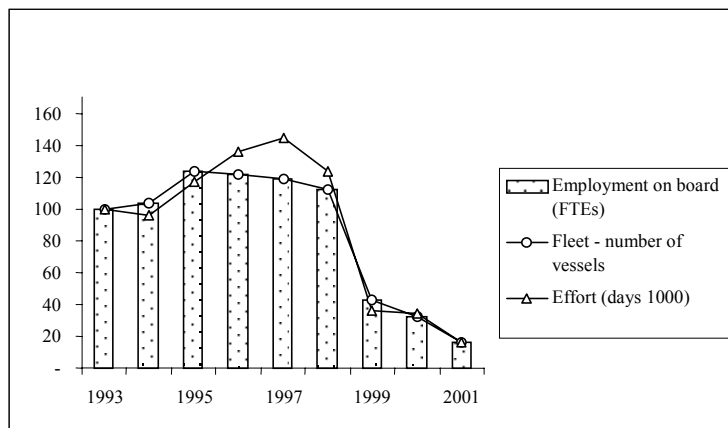
Table 1 – Driftnet swordfish fishery, fleet composition by size and age

SIZE CLASS (GRT)	NUMBER	GRT (1000)	KW (1000)		NUMBER	GRT (1000)	KW (1000)
	1996				2001		
0-9,99	397	2,7	28,0		19	0,1	1,1
10-35,99	190	4,2	37,4		49	1,2	11,3
>36	58	2,9	18,0		19	1,0	7,0
Total	645,0	9,8	83,4		87,0	2,3	19,4

Source: Irepa

The driftnets segment was one of the most profitable in the context of Italian fishery (Di Natale et al., 1993). The highest productive levels were attained in 1997 (approximately 12 thousand tons worth of product equal to sales exceeding 100 million euro). The quantities and the value of the landings respectively accounted for 2,7% and 6,5% of the national aggregate amount.

Fig. 1 – Indicators of capacity trend (1993-2001)



On average, a single driftnet succeeded in making profits roughly exceeding by 25% the gross added value attained in one year by a vessel of the national fleet. The high market value of the target species, the operative effectiveness of the vessels, which were characterized by a low incidence of running costs on the value of landings and,

finally, the shorter time spent performing their activity during the year, enabled this group of vessels to realize considerable profits.

*Table 2 - Economic indicators of swordfish fisheries (2001)*

ECONOMIC INDICATORS (AVERAGE/VESSEL)	TOTAL NATIONAL FLEET	SPADARE
Value of landings (000 EUR)	96,1	119,3
Gross value added (000 EUR)	64,2	80,0
Gross cash flow (000 EUR)	30,1	41,8
Net profit (000 EUR)	21,5	29,3
Days at sea (das)	160	120
Value of landings/das (EUR)	599,55	990,62
Net Profit/das (EUR)	134,38	244,17

Source: Irepa

### **Description of the buy-back program**

The ban on *spadare* was a consequence of a long process, which lasted almost over 15 years. This process led to the disappearance of an activity that was deep-rooted in several fishermen's communities.

Since the beginning of '90s, the repeated anti-driftnets campaigns conducted by international environmentalist associations raised huge concern in the public opinion worldwide. According to the environmentalists, the nets used in this fishing technique, whose length exceeded 20 km, are poorly selective. Consequently, the driftnets cause an excessive mortality rate among sea mammals, turtles and birds which are by chance trapped into the nets together with the target species i.e. swordfish and, partly, tuna.

Responding to the environmentalist campaign magnified by the press and the international television networks, in 1989, the United Nations passed a resolution which established a moratorium on large driftnet<sup>1</sup> fishing in high seas. Nevertheless, at an

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<sup>1</sup> Risoluzione 44/225 del dicembre 1989 delle Nazioni Unite

early stage, Mediterranean fishing industry and, particularly, the Italian fleet did not pay much attention to the UN Resolution for reasons that may be summarized as follows:

- Mediterranean fishery is characterized by a small-scale productive structure consisting of small artisanal units. Therefore, this type of fisheries are neither interested in, nor pay much attention to the current international debate;
- Mediterranean countries neither supported nor played a significant role within the debate conducted by the international bodies. For example, Italy joined the ICCAT only in 1994, while the FAO's CGPM activity is bound to the local geographical issues.
- The Resolution affected high seas, that is to say, the areas situated at the distance of 200 miles from the coast, outside the Exclusive Economic Zone. Accordingly, a number of States were allowed to perform driftnet fishing within their territorial waters. However, the Mediterranean Sea does not include any Economic Exclusive Zones and, within this Sea, high seas start only at the distance of 12 miles off the coast. Therefore, their impact is totally different from other world areas, with discriminatory effect on some fleets and some countries.

Owing to the politic pressure which initiated after the approval of the UN Resolution of 1989, the European Union approved EEC Regulation no. 345/92 of 28<sup>th</sup> October 1991, which established that the maximum length of nets should not exceed 2,500 meters. This resolution was adopted in the attempt of reducing the hazards related to the use of driftnets and to preserve swordfish and tuna stocks. Nevertheless, this solution proved to be temporary and useless. In fact, the enforcement of the regulation,

which provided for the use of the above-mentioned type of nets, would have made this fishing activity no longer profitable.

Fishermen did not comply with this regulation; nevertheless, its enforcement was inadequately monitored. Accordingly, the increasing pressure of the international public opinion induced the EU to meet their demands. Therefore, a new Regulation that provided for the complete ban on driftnets within a given number of years was introduced in 1994. Despite Italy, France, Ireland and other Member States opposed this hypothesis, the regulation was approved.

The environmentalists' campaign against *spadare* continued and reached its climax in 1996, when the USA threaten to impose an embargo on Italian ichthyic products.

Following the strong pressure exerted by US, the European Union adopted Regulation no. 894 of 29<sup>th</sup> April 1997. This imposed the complete ban on *spadare* as from 1<sup>st</sup> January 2002, “in order to ensure the preservation of marine biological resources and the exploitation of stocks in accordance with both fishermen and consumers' interests”.

Further to the EU decision, in 1997 the Italian administration approved two plans for the withdrawal and the re-conversion of *spadare*. The plans also provided for financial aids to be granted both to ship owners and crews. Particularly, the Italian government adopted the so-called “Spadare Plan”<sup>2</sup>, a buy-back program that attempted to reduce the social and economic impact borne by the fishermen who were compelled to forgo driftnets fishery. The plan was to be implemented in the period 1997-2000.

To promote the withdrawal of driftnets dealing with swordfish fishing, the operators might choose between two options: the re-conversion or the permanent

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<sup>2</sup> Decree of 23rd May 1997

withdrawal from any fishing activities. Ship-owners and crewmembers would benefit from the related bonuses

Ship-owners were entitled to receive:

- a retirement allowance, in case of permanent withdrawal from any fishing activities; or
- a re-conversion allowance, if they were willing to continue their activity by using fishing gears other than driftnets.

The allowances provided for by the “Spadare Plan” and addressed to ship-owners were related to the vessel tonnage (grt) and to the year of participation in the plan (the premium decreased in case of late participation). Obviously, the retirement allowances were higher than the re-conversion ones. Those who decided in favour of a permanent withdrawal and applied for a retirement allowance were required to return their fishing licences along with the nets. Those who accepted the re-conversion option were required to return their nets and their driftnet authorisation. In case they had no other authorisation they were entitled to apply for a purse-seiner or a new authorisation for small-scale fishing gears. This group of allowed fishing gears included a smaller net which, despite some technical differences from driftnets, was similar to them. (Other countries in the EU followed a similar approach)

The crewmembers involved in the plan were entitled to receive:

- a retirement allowance, if they agreed to forgo any economic activities; or
- a re-conversion allowance, if they moved to other fishing activities performed by using gears other than driftnets or to other economic sectors.

The cost of the program was charged on the existing funds in the framework of the EU Structural Funds, to the disadvantage of other planned activities that were since then neglected.

At the end of 2001, the “Spadare Plan” provided for the allocation of 120 million euro, 50% of which was granted by the European Commission and 50% by the Italian administration.

Of 645 driftnets operating at the beginning of the plans, 558 were dismissed within the terms established by law, but 87 did not forgo the activity. For this reason, a second “Spadare Plan”<sup>3</sup>, provided for the allocation of additional 5 million euro to be broken down equally among crews and ship-owners.

*Tab. 3 – Financial resources and number of actions for the implementation of “Spadare Plans”*

		No. of actions	
		1st Spadare Plan	2nd Spadare Plan
Vessel owners	Retirement allowance	129	0
	Reconversion allowance	634	87
	<i>Total</i>	<i>763</i>	<i>87</i>
Crew	Retirement allowance	251	0
	Reconversion allowance	1607	320
	<i>Total</i>	<i>1858</i>	<i>320</i>
	<i>Total costs (€)</i>	<i>120.282.273</i>	<i>5.000.000</i>

Source: Mipaf, Direzione Generale Pesca

<sup>3</sup> Decree no. 85 of 7th May 2002



### **Who remained and who left**

The ban on driftnets implied the compulsory agreement to the program of licence withdrawal concerning driftnet fishery.

The 1st “Spadare Plan” provided for both the permanent withdrawal from fishery and the re-conversion of driftnets the elimination of all existing driftnets.

On the basis of the applications submitted to benefit from the financial support provided for by the 1<sup>st</sup> “Spadare Plan”, the retirement allowances granted to ship-owners were 129. Therefore, this figure corresponds to the number of vessels completely withdrawn from the activity. The re-conversion allowances granted within the 1<sup>st</sup> plan were 634, to which they added 87 provided for by the 2<sup>nd</sup> “Spadare Plan”.

In other words, the fishermen approaching the age of retirement benefited from the opportunity to be granted an unexpected withdrawal allowance which they would not be granted in the future. Besides, by using the allowances, the operators whose only activity was fishery had the possibility to diversify their work. As a matter of fact most of the re-conversions involved the use of the “ferrettara” which was among the gears allowed to continue fishing. Generally speaking, given the small dimension of vessels, most of the re-converted fleet shifted their activity along the coastal areas that were already affected by over-exploitation.

### **Winners and losers**

The ban imposed on “spadare” caused a number of social and economic problems within those fisheries where this activity was an essential source of income. The most relevant impact produced by this ban concerned the position of fishermen towards the

State, a problem that was partly neglected. Basically, fishermen were prevented from performing an ancient activity handed down from father to son. Therefore, the allocation of bonuses did not seem an adequate measure of compensation to re-establish a trustworthy relationship between the State and the fishermen. In addition, taking into consideration the poverty, the lack of education and the considerable presence of “almost illegal” activities that characterize the regions mostly affected by the ban, it is difficult to evaluate the actual social cost resulting from enforcement of the above-mentioned measures.

Only the vessel owners who forwent the activity and received an allowance ranging from 25 to 120 thousand euro actually benefited from their permanent withdrawal.

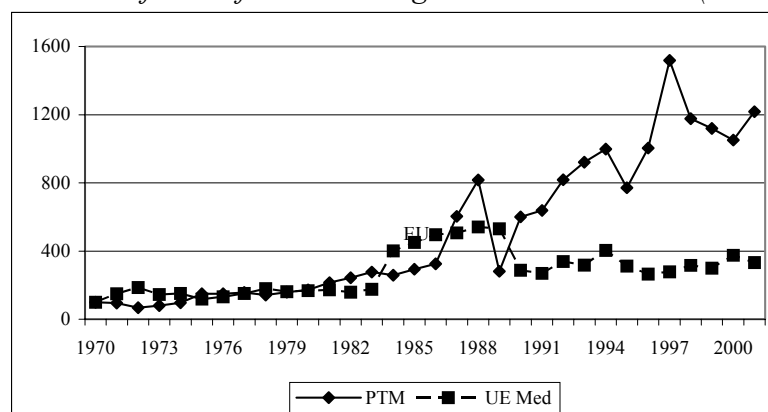
Conversely, the vessel owners who agreed on continuing their activity with different gears had to face relevant economic problems. In fact, by allowing fishermen to harvest only over-fished grounds, the new permitted gears ensured much lower income. Obviously, given that the resource had to be shared by a larger group of fishermen, also the vessel owners who had been performing the same fishing activities since the very beginning suffered from the negative economic impact of such measures. To sum up, the increased exploitation brought about a higher negative impact among all fishermen present in the area.

The re-conversion of *spadare* into passive gears produced an increase in the fishing effort in close proximity of the shore. This area was already exploited by a considerable number of vessels belonging to small-scale fishery. Indeed the latter activity, which includes highly differentiated vessels (that is: passive gears, longliners, small-scale seine fishery), still accounts for 80% of the Italian fleet.

The Third Mediterranean Countries (TMC) benefited from the ban on driftnets imposed by the EU. In most of these countries, particularly Morocco and Turkey, a considerable increase in driftnets and swordfish harvesting was recorded (fig.2). In fact, the ban on *spadare*, which involved the Mediterranean countries belonging to the EU, boosted the activity of *spadare* fisheries performed by TMC. Therefore, as demonstrated by the data concerning the harvesting of swordfish, the preservation of cetacean and turtle stocks was lower than expected (in 1996, the Mediterranean area registered a production of swordfish of approximately 12 thousand tons, whereas, in 2001, the production amounted to 15 thousands<sup>4</sup>)

To sum up, ship-owners belonging to nations neighbouring the EU Mediterranean countries should be included among winners. In fact, they had the opportunity to increase their driftnets fleets, to exploit stocks within the same areas previously harvested by the Italian fleet and to sell their landings on the Italian market. As a consequence, the entire segment is under pressure and is affected by the alteration of its competitiveness on the markets.

Fig. 2 – Trend of swordfish harvesting in TMC and EUMC (1970-2001)



Source: FAO FishStat Plus, 2002

<sup>4</sup> Source: FAO.

## **Retrospective discussion, strengths and weaknesses**

The program weaknesses concern three different issues, which are all related to the role of the Institutions involved in this matter:

1. The first problem is related to the procedures of approval associated with the permanent withdrawal and the implementation of the “Spadare Plan”.
2. The second concerns the absence of a preventive evaluation of the actual impact of the measure on both the resources and the social-economic context of communities relying on this fishing activity.
3. Finally, the third takes into account the absence of both an evaluation of the outcomes and a likely re-examination of the adopted strategies.

As for the first problem, it has already been emphasized that the final approval of the ban on driftnets resulted from a political process, which did not take into consideration any of the existing information as to the biological, economic and social impact of the ban. In addition, it neglected the role of industry or else opposed it.

In my opinion, this is one of the most striking examples of damages caused by the multilevel management of resources which gathers a number of institutions whose interests frequently diverge. Indeed, although each institution pursues objectives that are not always shared by the other bodies, it is fully or partially entitled to make decisions on the basis of its own criteria.

In particular, most of the above-mentioned weaknesses might be associated with the following aspects of the resolutions:

- Inadequate transparency and reliability of the information used to make decisions;

- Lack of communication between different decision-making levels and industry; and
- Inadequate dissemination of information.

It is only on the basis of the above issues that it is possible to identify the steps of a process whose disadvantages outnumbered the advantages.

The first weakness of the decisional process involves the first level and it might be associated with the approval of the first UN Resolution. It is difficult to believe that no distinction had been made between the high seas in which EEZs were in force and those where this kind of measure had not been implemented. Moreover, it is amazing to notice that the problem of the differences among the countries affected by the resolutions had not been debated within the relevant administrations. They should have considered that some of these countries were potentially able to conduct their activities with more dangerous industrial methods since they might rely on wider “internal” areas. Nevertheless, the negative economic and social impact of the UN resolutions would have affected the nations without any EEZ, where the objective pursued by the resolution would have never been attained.

Further weaknesses aroused at the second decisional level, i.e. the EU level. Indeed, mainly political and diplomatic pressures boosted the adoption of the resolutions by this administration. It is also not negligible that, at that time, a representative of the Green Party presided over the EU fishery department. However, the most important aspect was the principle on which the European Commission based its own commitment, that is: the idea of precautionary measures. Following this criterion, the European administration adopted measures which were not supported by scientific data concerning the actual incidence of by-catches and accidental catches of

marine mammals made by driftnets. Nevertheless, several studies on the above-mentioned issues, which had been previously conducted, had demonstrated the groundlessness of the evaluations made against driftnets, but were not used at all.

Finally, the third decisional level concerned both Italy and the other EU members States, which were requested to enforce the EU regulation under extremely critical circumstances. The national administrations of the European countries were, indeed, aware of the potential impact resulting from the enforcement of the regulation and of the unfeasibility of its stated aims. Actually, it is remarkable that each State involved in the “driftnet affaire” attempted to minimize, as far as possible, the damages caused by the UN resolution and the European regulation pursuant to it.

As stated before, the second weakness concerned the opportunity to make decisions without a previous evaluation of its biological, economic and social effects. As for the case on hand, it would have been possible to foresee the complete uselessness of the entire program.

The lack of an evaluation subsequent to the enforcement of the measure is another significant weakness. Indeed, a suitable analysis would identify on a regular basis the factors which produced the failure of the plan.

A brief review of the results might confirm what has just been stated. The ban on *spadare* did not produce a marked decrease in the driftnet fishing effort. The development of alternative gears, slightly different from those who had been banned, allowed fishermen to continue their activities, even though with additional difficulties. On the other hand, the impact on both other biological resources and on the profitability

was really heavy, particularly for those who re-converted their gears into totally different ones.

The re-conversion was addressed to other coastal fishing activities characterized by a strong impact on resources and performed within areas with a high presence of artisanal vessels. For this reason, measures that were devised to preserve the stocks of species accidentally harvested have come to worsen the state of several coastal resources already overexploited.

The increase in the fishing effort made by Mediterranean countries outside the EU, which have intensified the use of driftnets, is another undesired effect of these measures.

The withdrawal plan also had a strong impact on the profitability and the employment of the entire segment. The ban on *spadare* was enforced within those fisheries highly dependent on fishing activities and located in the south of the country, where job opportunities are rather limited.

Some fisheries (i.e., Bagnara Calabria, located in Calabria administrative region), the social impact and the effects on the employment of these measures were so severe that they produced a migration wave directed towards distant countries, such as Australia.

### **What was learned and what would be done differently**

An element that was certainly lacking to the ban on *spadare* concerned the possibility to assess the soundness of the motivations behind UN resolutions which led to the

approval of the plan. Their worldwide effectiveness, their potentially adverse effects and their actual capacity to succeed were also underestimated.

A remarkable adverse element is related to the conviction that a UN resolution might be applied within different management and structural systems without any changes. Actually, a measure that proves to be effective within a specific context might not be as appropriate within another. Particularly, the compulsory approach imposed on a management systems based on the co-management might have a disruptive effect on old and long-established management habits.

The lack of co-operation between institutions and fishery associations is the last aspect to be considered. Fishery associations harshly criticized the measures imposed by the relevant institutions. They also deemed it insufficient to provide for measures that would compensate the operators' loss caused by the ban imposed on a highly profitable gear.

Accordingly, the process that led to the ban of *spadare* was a rather long one and, to date, it still does not completely prevent driftnets from being illegally used.

As demonstrated also in other sectors, a co-management approach is vital to implement those management plans which would result in a strong impact on profits and employment.

Besides the inadequacy of the re-conversion measures provided for by the “Spadare Plan”, the failure of this approach is due to the lack of joint management of the biological resources within the Mediterranean area.

The lack of the international co-operation within the Mediterranean is mainly due to the deep differences among its coastal countries. Indeed, the objectives of the



management policies adopted by these countries are often diverging. The countries affected by binding resolutions directed at ensuring a sustainable fishing effort particularly perceive the need for joint management measures concerning migratory species and shared stocks. In fact, the enforcement of these measures is often hindered by the increase in fishing effort and catches made by TMCs. Moreover, it is not negligible the considerable growth of the IUU fishery in the Mediterranean area, which threatens to reduce the effects of the preservation measures and the sustainable management system implemented by the sector.

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**Summary tables for the estimate of the retirement and the re-conversion allowances to be granted to ship-owners and crews provided for by the 1<sup>st</sup> “Spadare Plan”**

*Tab. 1 – Retirement allowance for ship-owners (euro)*

	Year of retirement		
GRT	1997	1998	1999
0-5	25.464	22.526	19.588
5-20	101.857	90.105	78.352
20-40	117.528	102.837	91.084
> 40	152.786	135.157	117.528

*Tab. 2 – Re-conversion allowance for ship-owners (euro)*

	Year of re-conversion		
GRT	1997	1998	1999
0-5	15.670	12.732	9.794
5-20	92.063	80.311	68.558
20-40	107.734	93.043	81.290
> 40	142.992	125.363	107.734

*Tab. 3 – Retirement allowance for crews (euro)*

	Years required for the retirement			
Length of on board service (years)	1	2	3	4
1	9.794	9.794	9.794	9.794
2	9.794	19.588	19.588	19.588
3	9.794	19.588	29.382	29.382
4	9.794	19.588	29.382	39.176
5	9.794	19.588	29.382	39.176

*Tab. 4 – Re-conversion allowance for crews (euro)*

	Years required for the retirement			
Length of on board service (years)	1	2	3	4
1	3.918	3.918	3.918	3.918
2	3.918	7.835	7.835	7.835
3	3.918	7.835	11.753	11.753
4	3.918	7.835	11.753	15.670
5	3.918	7.835	11.753	15.670